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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,104	06/20/2003	Masayuki Furumiya	N18347102E	7822

7590 08/26/2004
Darryl G. Walker
WALKER & SAKO, LLP
Suite 235
300 South First Street
San Jose, CA 95113

EXAMINER

TRAN, TAN N

ART UNIT PAPER NUMBER

2826

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,104

Applicant(s)

FURUMIYA ET AL.

Examiner

TAN N TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 6-20, 28 and 30-35 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 is/are allowed.
- 6) ☐ Claim(s) 21, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 22-25 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Election/Restriction

1. Applicant's election without traverse of Species B, claims 1-5,21-27, and 29 is acknowledged.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Information Disclosure Statement

3. If applicant is aware of any relevant prior art, he/she requested to cite it on form PTO-1449 in accordance with the guidelines set forth in M.P.E.P. 609.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 21,26 are rejected under 35 U.S.C. 102(e) as being anticipated by Fedeli (6,542,060).

With regard to claim 21, Fedeli discloses a semiconductor integrated circuit comprising turns 3 serves as an inductor formed on a substrate 6; and a laminated film formed beside the turn 3 wherein the laminated film having a ferromagnetic layer 12 and a spacer layer 14 made of metallic material formed on the ferromagnetic layer 12. (Note lines 40-50, column 3; lines 4-7, column 4, fig. 3 of Fedeli).

With regard to claim 26, Fedeli discloses the laminated film comprising the spacer layer 14 and the ferromagnetic layer 12 formed inside the turns 3 when view from a direction perpendicular to a surface of the substrate 6. (Note fig. 3 of Fedeli).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fedeli (6,542,060) in view of Shiga (5,396,101)

Fedeli does not disclose the ferromagnetic substance layer is divided into a plurality of parts separated from one another when viewed from a direction perpendicular to a surface of the substrate.

However, Shiga discloses the core portion 14 made of nickel serves as the ferromagnetic substance wherein the core portion 14 is divided into a plurality of parts

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14a separated from one another when viewed from a direction perpendicular to a surface of the substrate¹⁰. (Note lines 6-12, column 3, fig. 2 of Shiga).

Therefore, it would have been obvious to one of ordinary skill in the art to form the Fedeli's device having the ferromagnetic substance layer is divided into a plurality of parts separated from one another when viewed from a direction perpendicular to a surface of the substrate such as taught by Shiga in order to enhance magnetic control.

Allowable Subject Matter

6. Claims 22-25,29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 22-25,29 allowable over the prior art of record, because none of these references disclose or can be combined to yield the claimed invention such as the metal layer having a first layer and a second layer, and a lower surface of the ferromagnetic substance layer is covered with the first layer and an upper surface and side surface of the ferromagnetic substance layer is covered with the second layer as recited in claim 22, the metal layer includes a barrier metal layer as recited in claim 24, a multiplayer interconnection layer formed on the substrate wherein the inductor and the laminated film are formed on an uppermost layer of the multiplayer interconnection layer as recited in claim 29.

7. Claims 1-5 allowable over the prior art of record, because none of these references disclose or can be combined to yield the claimed invention such as a ferromagnetic substance layer on the first metal layer, a lower surface of the

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ferromagnetic substance layer being lower than an upper surface of the inductor, and upper surface of the ferromagnetic substance layer being higher than the lower surface of the inductor, and a second metal layer that covers an upper and side surface of the ferromagnetic substance layer, an upper surface of the second metal layer being no lower than the upper surface of the inductor as recited in claim 1.

Conclusion

8. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tan Tran whose telephone number is (571) 272-1923. The examiner can normally be reached on M-F 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for after final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TT

Aug 2004


Minhloan Tran
Primary Examiner
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